

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ORVILLE D. MEANS, ROBERT W. LECLAIR,
and DAVID S. FURUNO

Appeal No. 96-4194
Application 08/239,732¹

ON BRIEF

Before HAIRSTON, BARRETT and RUGGIERO, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 5, 7 through 12 and 14 through 19. In an Amendment

¹ Application for patent filed May 9, 1994. According to the appellants, the application is a continuation-in-part of Application 07/959,700, filed October 13, 1992, now U.S. Patent 5,311,023, issued May 10, 1994.

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After Final (paper number 8), claims 1 through 5, 12 and 15 through 18 were amended. As a result of this amendment, the examiner stated

(paper number 9) that claims 2 through 5, 16 and 18 are allowed, and that claim 10 is objected to. Accordingly, claims 1, 7 through 9, 11, 12, 14, 15, 17 and 19 remain before us on appeal.

The disclosed invention relates to a filter inspecting apparatus for inspecting generally tubular filters for holes.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A filter inspecting apparatus for inspecting generally tubular filters, comprising:

a support frame;

mounting means mounted on said support frame for mounting a substantially tubular filter having inner and outer surfaces for rotation about its axis;

EMR generating means mounted on said support frame for generating and directing electromagnetic radiation;

a rotatable multifaceted mirror positioned for receiving electromagnetic radiation directly from said generating means and directing said electromagnetic radiation in a continuous sweep directly onto and along one of said inner and outer surfaces of the filter;

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EMR sensing means mounted adjacent to the other of said inner and outer surfaces for sensing EMR passing through said filter and generating a signal responsive thereto; and

indicator means responsive to said signal for indicating passage of EMR through the filter.

The references relied on by the examiner are:

Merlen et al. (Merlen) 1981	4,247,204	Jan. 27,
Everroad 1981	4,279,508	July 21,
West et al. (West) 1982	4,323,311	Apr. 6,

Claims 1, 7 through 9, 11, 12, 14, 15, 17 and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Everroad in view of West and Merlen.

Reference is made to the final rejection, the brief and the answer for the respective positions of the appellants and the examiner.

OPINION

The obviousness rejection is sustained as to claims 1, 7 through 9 and 11, and is reversed as to claims 12, 14, 15, 17 and 19.

Everroad discloses a method and apparatus for inspecting paper air filters 14 for leaks or holes. A rotatable table 11

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with a hole in the center supports the filter 14 (Figure 1). An electric lamp 12 is mounted on a rod 13 that provides vertical movement to the lamp through the hole in the table and inside the filter. The light that shines through leaks or holes in the filter is visually scanned by the operator of the testing apparatus via monocular optical device 20. The area around the inspection apparatus is darkened by curtains 25 and 26.

West discloses a multifaceted rotating mirror 14 (Figures 1 and 2) that directs a beam of radiation from a laser 11 onto a tin plate strip 10 via lens 25 and mirrors 17, 53 and 54. The

beam of radiation is scanned across the tin plate strip 10, and any radiation that passes through holes in the tin plate strip 10 is detected by an array of perspex light guides 22 which direct the light to a photomultiplier 36.

Merlen discloses a laser scanner 10 that uses a multifaceted mirror 14 (Figure 1) to direct a beam of radiation onto a moving web of material 30 without any

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intervening optics. A photomultiplier 36 picks up radiation that reveals where flaws are on the web.

The examiner's rejection (Answer, pages 3 and 4) is as follows:

Everroad scans the filter by moving the light source, but it would have been obvious to provide the scanning by using a laser beam and a rotating multifaceted mirror, such as taught by West et al, so that the beam could be moved rapidly and uniformly across the surface of the object being inspected. It would also have been obvious to use non-image detecting means so that automatic inspection could be achieved. Automatic inspection would have avoided operator fatigue as well as allowing for more rapid and reliable inspection. Merlin et al is cited as a teaching reference to show that direct direction of the beam from the scanner to an object is old in the inspection art, with the choice depending on intended use and the size of the holes to be detected. In modifying the Everroad invention to use a rotating, multifaceted scanner, it would have been obvious to use an elongated detecting means extending across the width of the object, such as shown by Merlen et al, so that all portions of the scanned areas could be detected without having to move the detecting means. It would have been obvious that such elongate detecting means could have

been provided by using a single elongated detector or a plurality of detectors, with the choice depending upon desired extent of the detection area, cost, and desired resolution. The use of rollers to rotate an object is well known.

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Appellants' arguments (Brief, pages 6 through 8) concerning the shortcomings in the teachings of each of the applied references are not convincing of the nonobviousness of the claimed invention because one cannot show nonobviousness by attacking the references individually where the rejection is based on a combination of references. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. Nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to the skilled artisan. In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Thus, appellants' arguments (Brief, pages 4 through 10) to the contrary notwithstanding, we are of the opinion that the examiner has presented convincing lines of reasoning for replacing the movable lamp of Everroad with a multifaceted mirror as taught by West for the advantage of rapidly and uniformly scanning a surface for holes (Answer, pages 3, 5 and 6), and for replacing a human observer as taught by

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Everroad with an automatic inspection system for the advantage of rapid and reliable inspection, and to avoid eye fatigue on the part of the human observer (Answer, pages 3, 5 and 6). Although West uses optical elements between the laser 11 and the tin plate strip 10, Merlen recognizes that the laser beam can be directed onto the scanned surface without the intervening optics. For the advantage of a simpler scanning system, it would have been obvious to one of ordinary skill in the art to replace the scanner of West with the much simpler scanning system disclosed by Merlen (Answer, pages 3 and 6). We are also in agreement with the examiner that the choice of a plurality of detectors as disclosed by West in the form of a plurality of perspex light guides 22 (Figure 1), or a single detector as disclosed by Merlen in the form of a pickup receiver 36 (Figure 2) depends upon "desired extent of the detection area, cost, and desired resolution" (Answer, pages 3 and 4).

In view of the foregoing, the obviousness rejection of claims 1, 7 and 9 is sustained. The obviousness rejection of claims 8 and 11 is likewise sustained because of appellants' grouping of the claims (Brief, page 4).

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Turning to claims 12, 14, 15, 17 and 19, "the examiner maintains her position that rollers are commonly used to rotate

an object and takes judicial notice that she has known of such use for decades" (final rejection, page 5). In response to the taking of judicial notice, appellants requested either a reference or a declaration executed by the examiner to support the proposition that such rollers were well known in the art (Brief, page 9). "Allegations concerning specific 'knowledge' of the prior art . . . should also be supported and the appellant similarly given the opportunity to make a challenge." In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420-21 (CCPA 1970). As indicated in 37 CFR § 1.104(d)(2):

When a rejection in an application is based on facts within the personal knowledge of an employee of the Office, the data shall be as specific as possible, and the reference must be supported, when called for by the applicant, by the affidavit of such employee, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons.

Inasmuch as the examiner has not responded to appellants'

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challenge with either a reference teaching or a declaration executed by the examiner, we must reverse the obviousness rejection of claims 12, 14, 15, 17 and 19.²

DECISION

The decision of the examiner is affirmed as to claims 1, 7 through 9 and 11, and is reversed as to claims 12, 14, 15, 17 and 19.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON)
Administrative Patent Judge)
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² Our reversal of the obviousness rejection is based on procedural grounds, and has nothing to do with the accuracy of the examiner's conclusion (Answer, page 4) concerning the use of rollers to rotate an object. We note in passing that Everroad uses roller bearings 29 (Figure 3) to rotate the filter 14 via table 11.

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